

Maritime Academy Trust

Chromebooks Report

2023



Part 1: Welcome

I am delighted to provide you with your trust's annual Impact Report outlining some of the key findings from your Trust's impact evaluations over the last academic year.



Our view is that data is only as useful as the purposes for which you use it. But done well, meaningful impact evaluation can help drive meaningful decision making to do more of what is working best, and less of what is not. Hopefully, this report helps provide some summary insights to support that process.

We also want to take this opportunity to say thank you for partnering with us. Ultimately, we can only achieve as much as the schools we work with, and it has been fantastic to work with so many dedicated professionals committed to maximising impact for young people. Please do continue to provide us with your ongoing feedback so that we can best develop our way of working with you.

Thank you for continuing to be one of our valued school partners.

Owen Carter

Owen Carter

Co-Founder and Managing Director

Part 1: Welcome

Contents	02
Introduction	03
Using this Report	03

Part 2: Executive Summary

Executive Summary	04
Methodology	07

Part 3: Evaluation Findings

Evaluation Overview	08
A: Cross-Trust Project - 1:1 Devices	09

Part 4: Supporting Documents

Data Collection & Analysis	18
Using ImpactEd Platform Reports	19
About ImpactEd	21
Glossary	22



Introduction

Welcome from your School Partnership Manager



Ciara Sims

It has been a pleasure being the School Partnership Manager for Maritime Academy Trust this last academic year. Our partnership has enabled us to investigate the hard work your Trust puts into programmes to improve pupil outcomes and life chances.

This report will explore the findings of Maritime's research into the impact of 1:1 devices, as well as providing an overview of two school-level evaluations. This will shed some light on the successes of these programmes, alongside identifying any areas where impact could be increased over the next academic year, and beyond.

Ciara Sims

School Partnership Officer

Using this Report

No school-based impact evaluation will provide completely reliable evidence of whether a programme did or didn't work. Results from an evaluation process should always be considered against other factors, such as teacher or student feedback, ease of implementation, and other qualitative data. Particular areas to consider when reflecting on the reliability of your results are:

Sample size. Typically, results from a greater number of pupils will lead to findings that can be more easily generalised. As a general rule, a sample size of 20-30 pupils or more is better suited to detailed statistical analysis. Smaller sample sizes are valid, but you may want to consider multiple terms or years of data where possible.

Implementation. It is rarely the case that educational interventions 'do or don't work'. Most often, the quality and consistency of how they are implemented will have the largest bearings on their success. As such, findings reported here should be reviewed against considerations around to what extent implementation and the particular cohort of students may influence results.

Timeframe. Any changes that are found in this report need to be investigated further and over longer periods of time to ensure valid and reliable results are generated.

Part 2: Executive Summary

Over 2022/23, Maritime Academy Trust worked with ImpactEd to answer the following questions:



What impact has the investment in 1:1 devices had on pupils' grit, metacognition, school engagement, and reading?

Social and Emotional Outcomes

Pupils who received a Chromebook saw decreases in their grit, metacognition, and school engagement. However, by the final time point, pupils' scores in all social and emotional measures were above the national average.

Year 3 pupils were the only group to see an increase in grit out of all year groups, although they also saw the largest decreases in metacognition and school engagement. This suggests that the use of 1:1 devices had a particular strong impact on the levels of grit for pupils in Year 3 but the most negative impact on their levels of metacognition and school engagement.

Pupils eligible for Pupil Premium (PP) saw smaller decreases in metacognition and school engagement compared to non-PP pupils by the final data collection point. This suggests that 1:1 devices had a more positive impact on PP pupils than non-PP pupils.

Academic Outcomes

Pupils at Timbercroft saw their reading increase. This suggests that investment in 1:1 devices had a positive impact on pupils' reading abilities.

Pupils eligible for PP saw a larger increase in reading scores compared to their non-PP peers, whilst female pupils saw a larger increase in reading compared to male pupils. However, the sample size of pupils at the final data collection point was small as so these findings should be interpreted with caution.

Pupil Reflections

The vast majority of pupils agreed or strongly agreed that since receiving a Chromebook they are more independent, have more opportunities to learn new things, and that their lessons are more engaging and more fun. When asked about using their Chromebook in school, the largest proportion of pupils said they use it in lessons and the smallest proportion of pupils said they use it with their friends. Qualitative findings indicate that pupils think that Chromebooks are fun for learning, increase their motivation to learn more and makes lessons quicker.



What reflections do parents and teachers share about the impact of the 1:1 devices on pupils?

Parent Reflections

The majority of parents believe that their child has become more conscientious, independent and better at using technology since receiving a Chromebook.

Qualitative findings from parents open-text responses were mixed. Some parents felt that the use of Chromebooks had increased their child's confidence and they make it easier understand what their child is learning at school. On the other hand, some parents felt that Chromebooks may be more appropriate for older children due to increased screen time.

Teacher Reflections

Out of all teachers who responded to the custom survey, all agreed that Chromebooks have resulted in pupils having more interest in their learning, gaining more independence, being more engaged in class and had a beneficial impact on pupils' academic progress. The qualitative findings also suggest that teachers noticed that their pupils are more enthusiastic and motivated in their learning both at home and at school.

Next steps

- ◆ Maritime should reflect positively on the outcomes of this report, particularly on the impact of 1:1 devices on the levels of grit for pupils in Year 3 and reading scores for pupils eligible for Pupil Premium. ImpactEd recommend repeating this evaluation with the inclusion of a control group to allow Maritime to more reliably draw conclusions about the impact of 1:1 Devices and see whether trends continue long term.
- ◆ Whilst pupils scored above the national average for all three social and emotional measures, it may be worth considering the potential factors as to why pupils scores in these measures decreased over time in the 2022/23 academic year, as well as in relation to the findings from 2021/22.
- ◆ When considering roll out the Chromebooks further, schools could suggest tactics for parents who would prefer to limit the screentime of their children, or how to set up parental controls on the Chromebooks to prevent pupils from accessing any inappropriate websites.



2.2 Methodology

Cross-Trust Project

Maritime Academy Trust has invested in technology for their pupils. Following an evaluation of the use of Chromebooks in 2022, Chromebooks have now been introduced across the Trust.

This report analyses the findings of Maritime's evaluation with ImpactEd, which aims to explore the impact of 1:1 devices on the grit, metacognition, school engagement, maths and reading levels of their pupils across two schools: Bligh Junior School and Timbercroft Primary School. Baseline survey data was collected in October 2022 and final survey data was collected in June 2023. This document reports on the changes observed between these two time points.

In order to answer key questions, a range of outcomes were measured, including:

- **Grit, metacognition and school engagement**, using academically validated self-report questionnaires widely used in educational research and recognised for their reliability.
- **Attainment data**, pupils' maths (TT rockstars scores from soundcheck) and standardised reading scores (NFER scores) were analysed. Please note that this report only includes reading results for Timbercroft Primary School as remaining attainment data is still being collected.
- **Maritime Chromebook Survey (pupils)**, a custom survey that was developed by Maritime and ImpactEd to explore pupils' attitudes towards using 1:1 devices. The survey consists of six Likert-scale questions and three qualitative questions with drop-down and open-text responses. The survey was administered in Summer 2023.
- **Maritime Chromebook Survey (teachers and parents)**, a custom survey that was developed by Maritime and ImpactEd to further explore the impact of 1:1 devices on pupils. The teacher survey consists of seven Likert-scale questions and one open-text response. The parent survey consisted of five Likert-scale questions, one open-text response and one multiple choice response. These surveys were administered in Summer 2023.

Participants consist of pupils in Year 3, Year 4 and Year 5 at Timbercroft Primary and pupils in Year 3 and Year 4 at Bligh Junior. As pupils in Year 4 at both schools used Chromebooks last year, we will be able to make comparisons to the data of these groups from the 2022 report and analyse the longer-term impact of the investment in 1:1 devices.

Part 3: Evaluation Overview

Section	Evaluation	Outcomes measured	No. of participants
A: Cross-Trust Evaluation	Maritime Academy Trust: 1:1 Devices	Improved... 🔴 Grit 🔴 Metacognition 🔴 School engagement 🔴 Maths 🔴 Reading	Bligh Junior School Baseline: 138 / Final: 149 / Matched: 134 Timbercroft Primary School Baseline: 165 / Final: 105 / Matched: 99

Section A: Chromebook 1:1 Devices

A1: What impact has the investment in 1:1 devices had on pupils' grit, metacognition, school engagement, and reading?

Outcome	Out of (total)	Baseline	Final	% change for matched pupils	% variance from national average (final)
Grit	5	3.34	3.32	-0.7%	+1.5%
Metacognition	5	3.62	3.52	-2.4%	+3%
School Engagement	5	3.82	3.66	-4.1%	+9%
Reading*	46	19.6	22.4	+6.4%	N/A

**Please note that at the time of writing this report, attainment data was yet to be collected for Bligh Junior School. These findings report on reading data collected by Timbercroft only.*

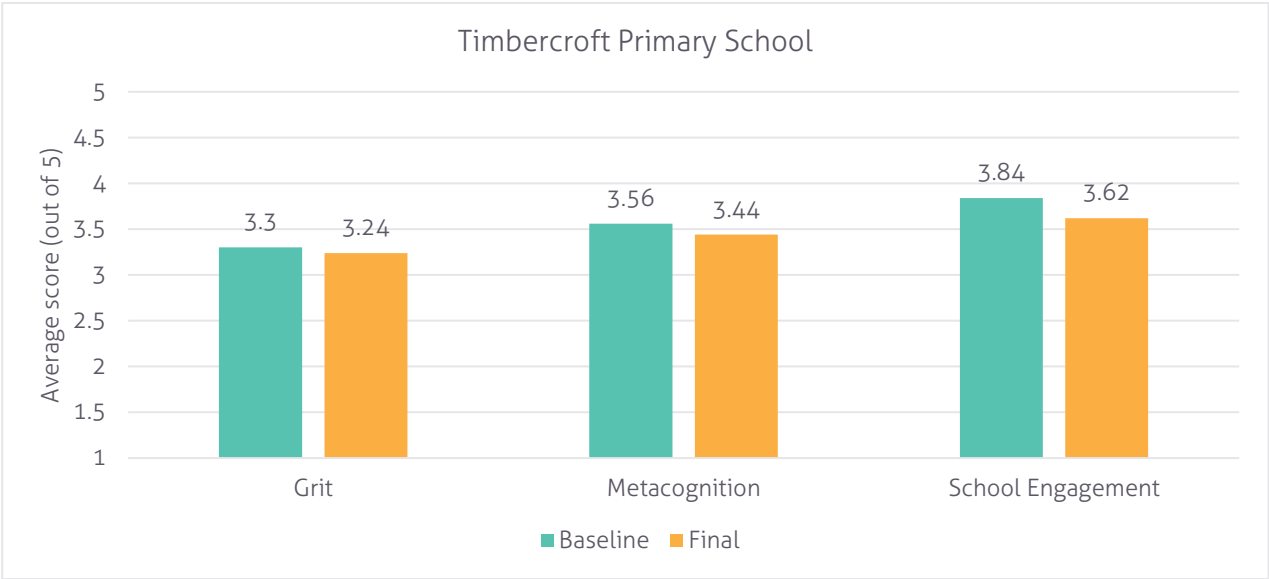
Pupils who received a Chromebook saw decreases in their grit, metacognition, and school engagement. However, by the final time point, pupils scores in all social and emotional measures were above the national average. This was most notable in **school engagement which was 9% above the national average**.

These findings can be compared to last year where pupils who received Chromebooks from school saw increases in their grit and metacognition, but a decrease in school engagement. **Pupils' decrease in school engagement was larger this year (-4.1%) compared to last year (-2.4%)**. In both years, pupils scored above the national average in all three social and emotional measures.

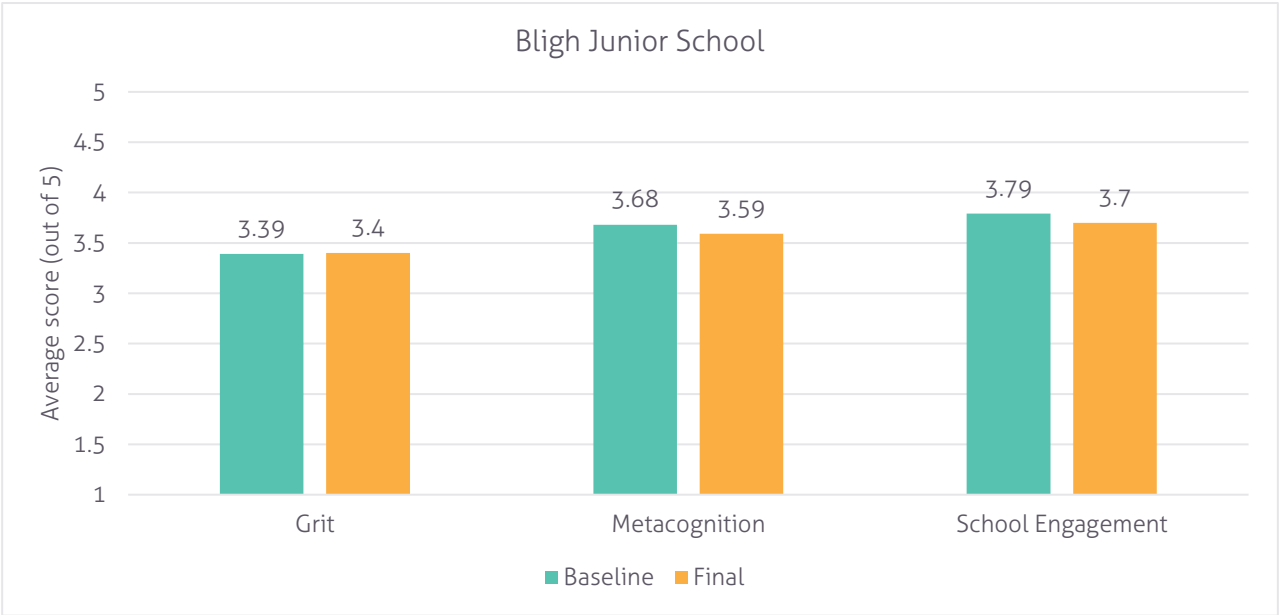
Pupils' average attainment score in reading increased. This suggests that investment in 1:1 devices had a positive impact on pupils' reading abilities. However, the sample size of pupils at the final data collection point was small as so these findings should be interpreted with caution.



A2: How did this vary by school?

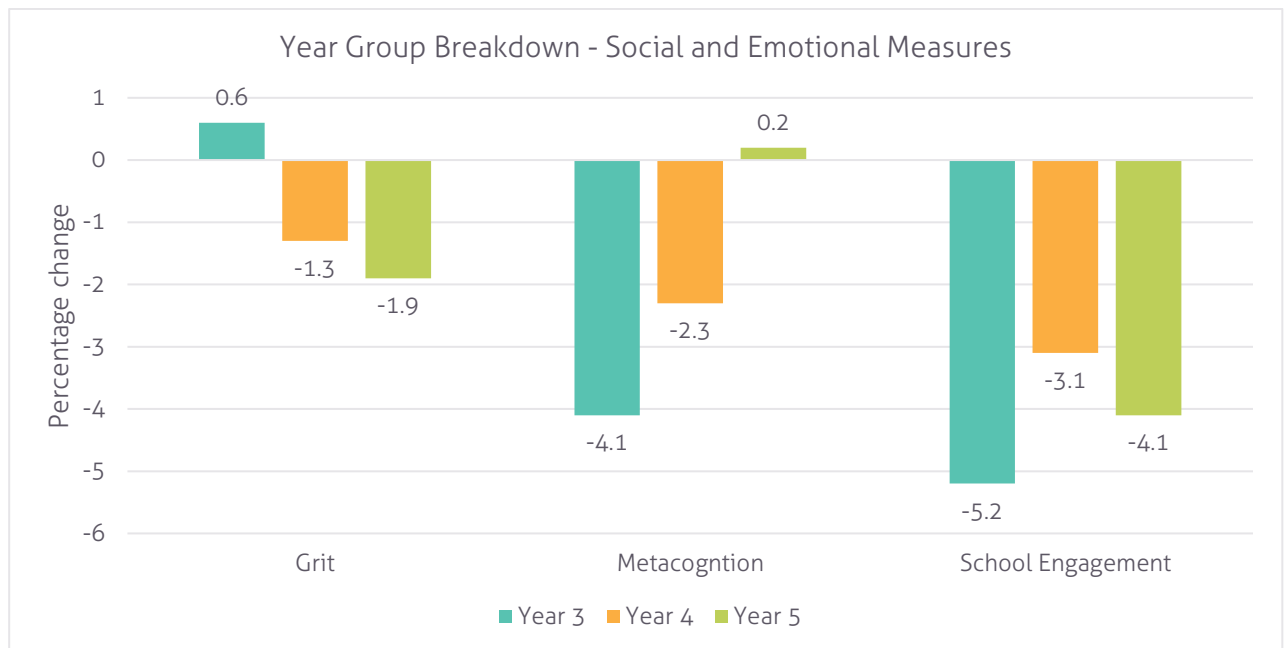


Pupils at Timbercroft Primary School scored highest in school engagement at both time points. Pupils scored above the national average in metacognition and school engagement following investment in 1:1 devices. Whilst pupils’ levels of grit were lower than the national average at the final data collection point, this was by just 0.5%.



Pupils at Bligh Junior School saw decreases in metacognition and school engagement following investment in 1:1 devices, though their scores in these measures at both time points were well above the national average. Pupils’ levels of grit remained stable over time.

A3: How did this vary by year group?



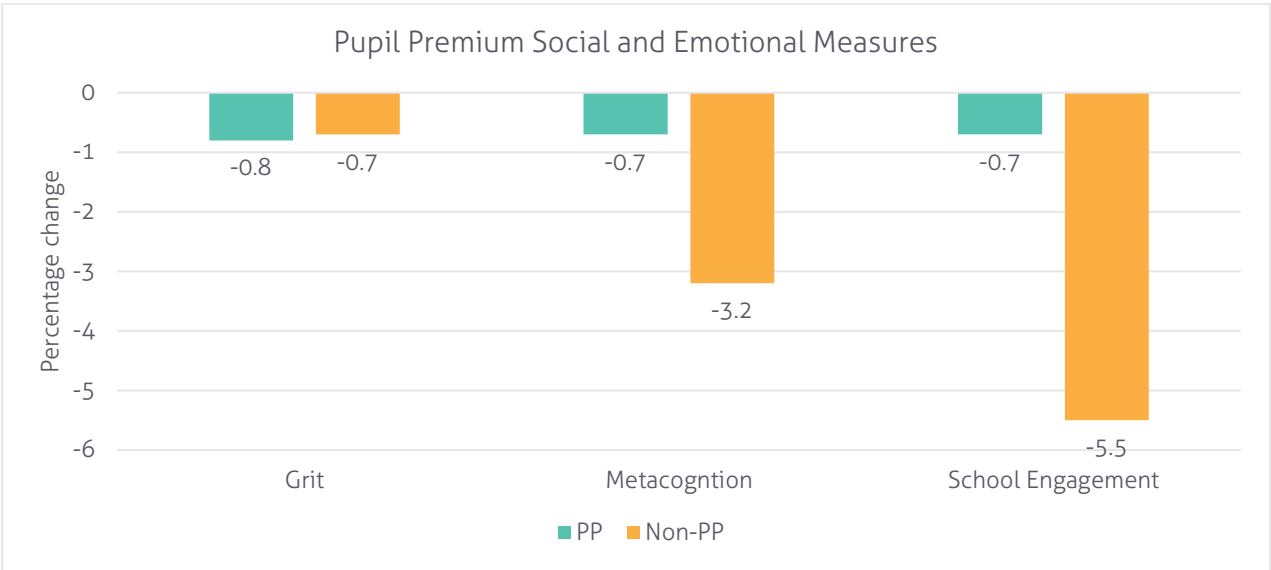
Year 3 pupils saw an increase in grit whilst pupils in Year 4 and Year 5 saw decreases, suggesting that the use of 1:1 devices had a particular strong impact on the levels of grit for pupils in year 3. On the other hand, Year 3 pupils saw the largest decrease out of all year groups for metacognition and school engagement, suggesting that 1:1 devices had the most negative impact for younger pupils' levels of metacognition and school engagement.

As pupils in Year 4 at used Chromebooks last year, we can compare this year's findings to the data collected for this cohort last year. Last year, pupils from this cohort saw a 2.4% increase in grit, a 1.2% increase in metacognition and a 2% increase in school engagement. This year, pupils saw decreases in all three measures. This suggests that the impact of the introduction of 1:1 last year was more positive than this year.



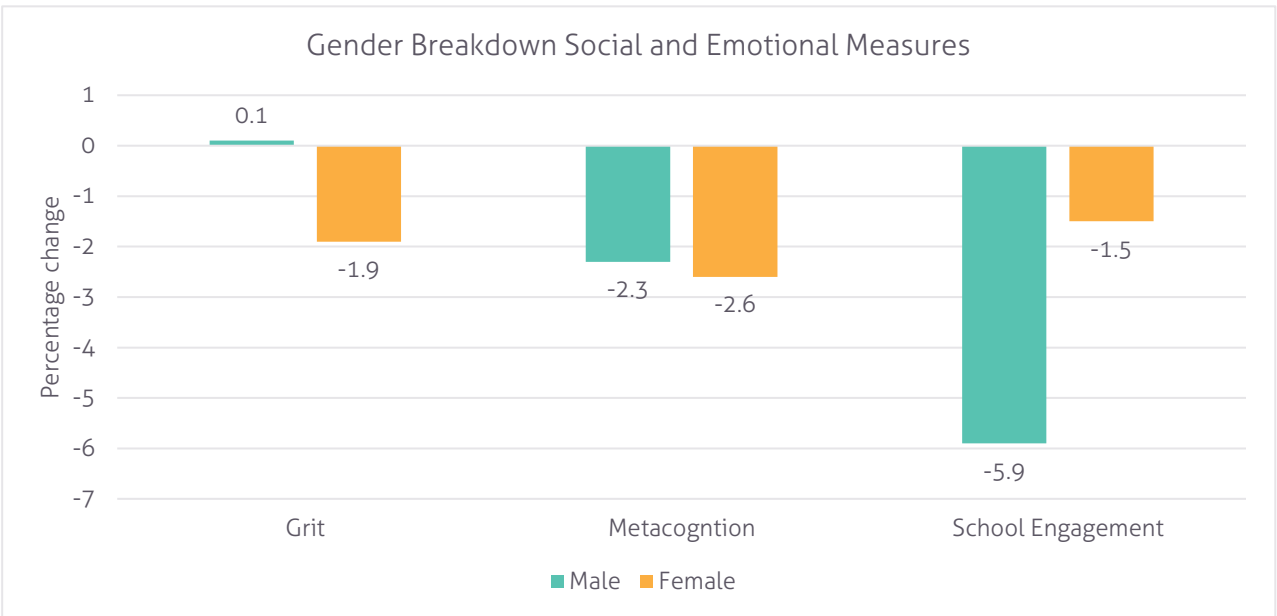
A4: How did this vary by subgroup?

Pupil Premium - Social and Emotional Measures



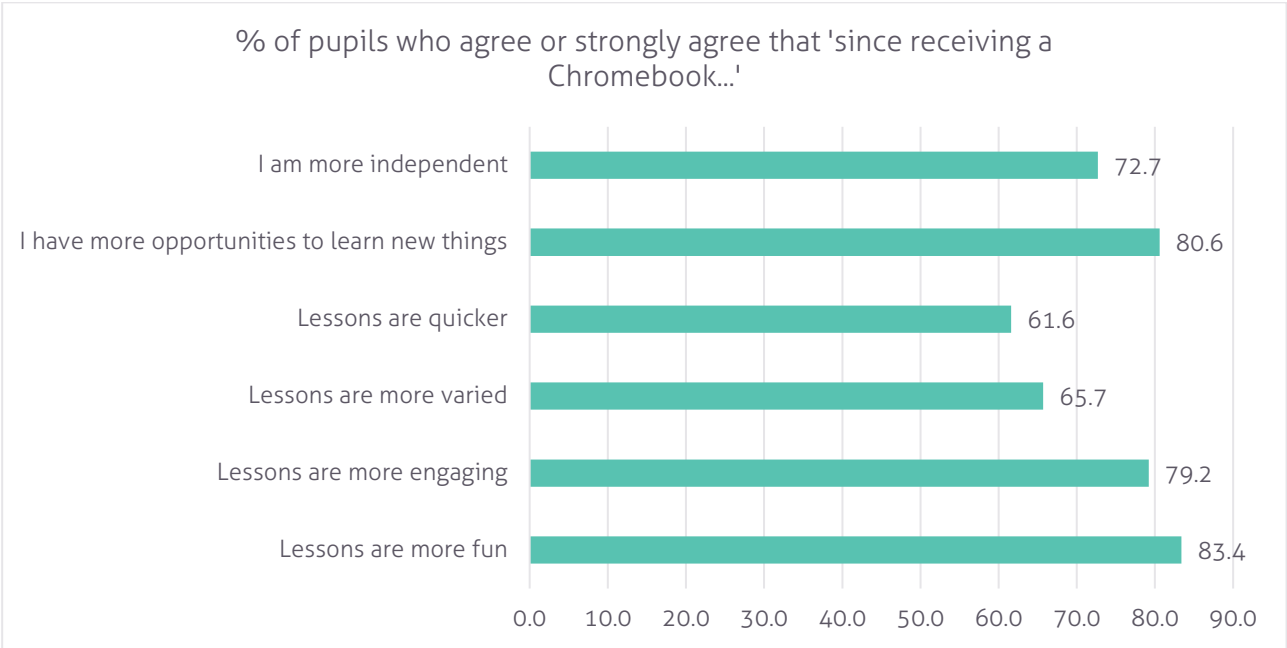
Pupils eligible for Pupil Premium (PP) saw smaller decreases in metacognition and school engagement compared to non-PP pupils by the final data collection point. This suggests **that 1:1 devices had a more positive impact on PP pupils than non-PP pupils**. Though it is worth noting that this impact was stronger last year where PP pupils saw increases in grit and metacognition and a smaller decrease in school engagement.

Gender Breakdown - Social and Emotional Measures

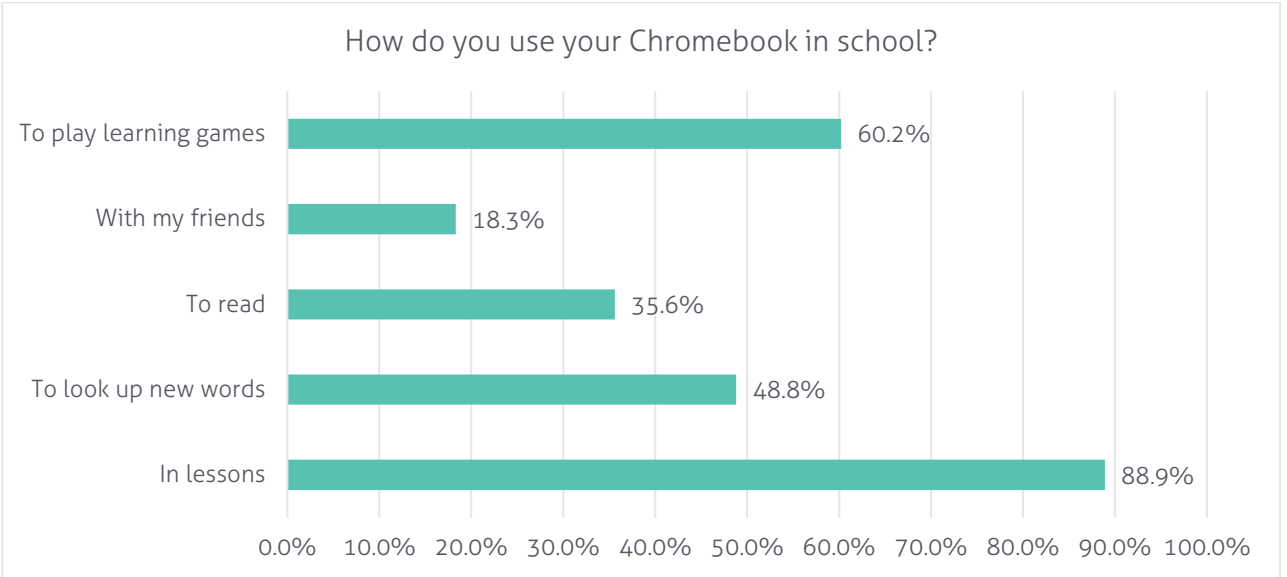


The impact of 1:1 devices was more positive for male pupils in relation to their levels of grit and metacognition compared to female pupils. On the other hand, female pupils saw a smaller decrease in school engagement compared to male pupils by the final data collection point, suggesting that **1:1 devices had a more positive impact on female's school engagement**. However, both male and female pupils scored above the national average in school engagement.

A5: What were pupils’ responses to Maritime’s Custom Chromebook Survey?

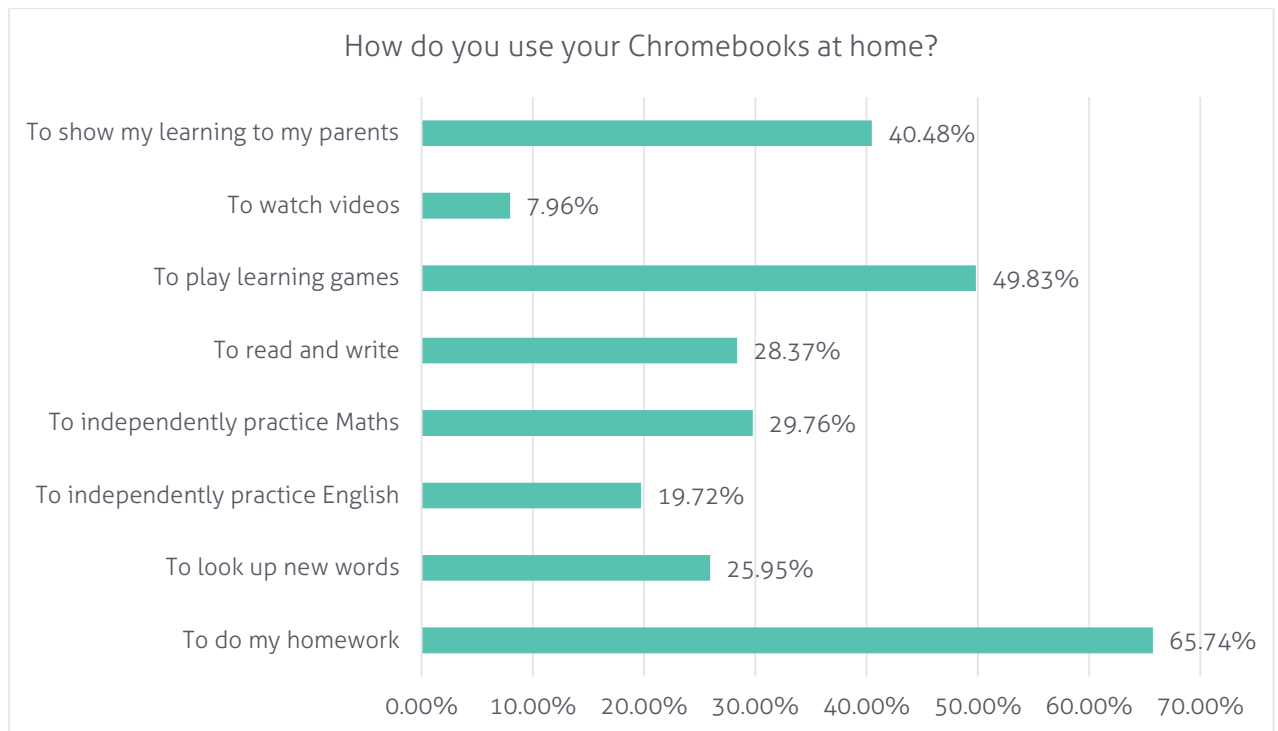


In the custom Chromebook survey, pupils were asked to respond to changes that they had noticed since the introduction of Chromebooks. **Similar to last year, the majority of pupils agreed or strongly agreed with every statement, with the highest percentage of pupils (83.4%) agreeing that they have made lessons more fun.** The percentage of pupils who agreed that having a Chromebook has made lessons more engaging increased from 70.4% to 79.2% from last year compared to this year.



The graph above looks at how pupils use their Chromebook in school. Similar to last year, the majority of pupils (88.9%) said they use their Chromebooks in lessons. The next most common response was 'to play learning games' which 60.2% of pupils said they did in school.

A smaller percentage of pupils said that they use their Chromebook in school with their friends this year (18.3%) compared to last year (26%) and to read, at 35.6% this year compared to 50.7% last year. On the other hand, a larger percentage of pupils said they use their Chromebooks in school to look up new words this year (48.8%) compared to last year (30.3%).



The graph above looks at how pupils use their Chromebooks at home. Similar to last year, **the majority of pupils (65.7%) said that they used their Chromebook to do homework at home.** A considerable proportion of pupils (49.8%) also said that they used their Chromebook at home to play learning games. The least popular thing for pupils to do at home with their Chromebooks was to watch videos.

Qualitative Responses

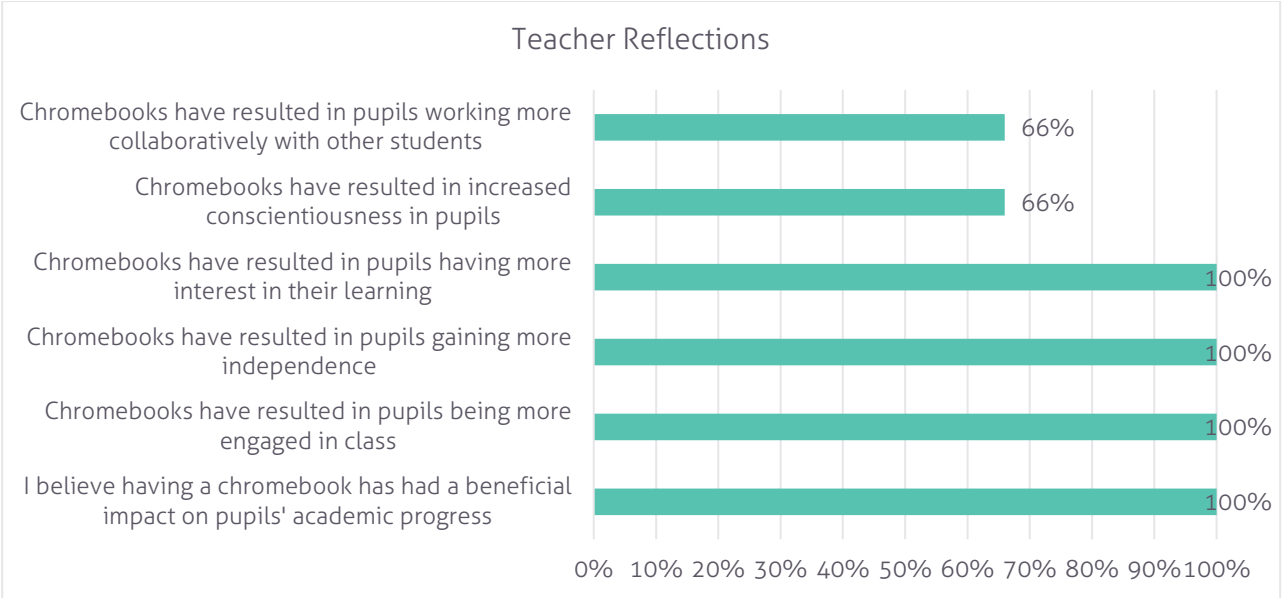
The qualitative question asked pupils if there was anything else they wanted to share about their Chromebook. Copied below are some of the responses left by pupils:

- 📌 *"I think the Chromebook are fun and gives us more activities"*
- 📌 *"It works very well for learning new things and made me more independent"*
- 📌 *"Chromebooks can be very useful, but sometimes children go on inappropriate websites"*
- 📌 *"I think that it does make other people happy but I think it would be as exciting looking at a board for some reason"*
- 📌 *"I really like learning with my Chromebook it made everything more fun than ever and it is very quick to learn with"*
- 📌 *"It makes lessons fun and interesting"*
- 📌 *"Chromebooks have made lessons more fun, exciting and Chromebooks have allowed me to learn more"*
- 📌 *"It helps people with learning and helps me to play lexia and have fun at after school club"*
- 📌 *"There good for lessons and lessons can be quicker instead of the teacher doing everything"*

A6: What were teachers’ and parents’ responses to Maritime’s Custom Chromebook Survey?

Teacher Reflections

Four teachers from Bligh and two from Timbercroft responded to the custom survey looking at the impact of Chromebooks on their pupils.



All teachers agreed with the statements that Chromebooks have resulted in pupils having more interest in their learning, gaining more independence and being more engaged in class. All teachers also agreed that having a Chromebook has had a beneficial impact on pupils’ academic progress. These findings were the same as last year.

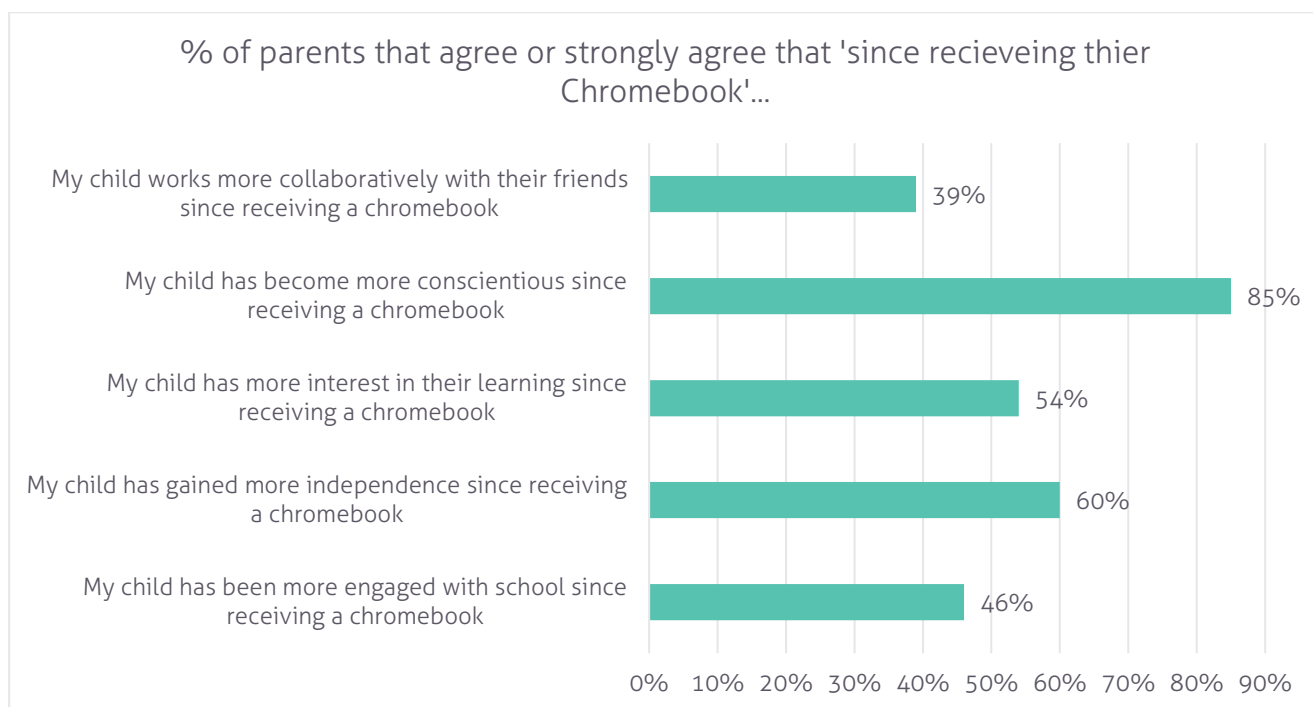
66% of teachers agreed that Chromebooks have resulted in pupils working more collaboratively with other students and that they results in increased conscientiousness in pupils.

Two teachers noted that their workload had reduced whilst one reported that it had increased. In the open-text question asking teachers to note any changed they have noticed in pupils since receiving Chromebooks, the following comments were left:

- “Children are more enthusiastic about learning with the Chromebook. Anxiety of not understanding teaching is minimised as I give children copy of input resources so they can review at their own pace/in small groups”
- “Pupils taking responsibility. There has been a significant improvement in home learning and children doing additional learning out of class”
- “Children more motivated in their learning if on Chrome books. Also means they can access learning resources much more easily, work at their own pace and receive more differentiated work”

Parent Reflections

63 parents responded to the custom Chromebook survey that was developed to better understand the impact of Chromebooks on pupils.

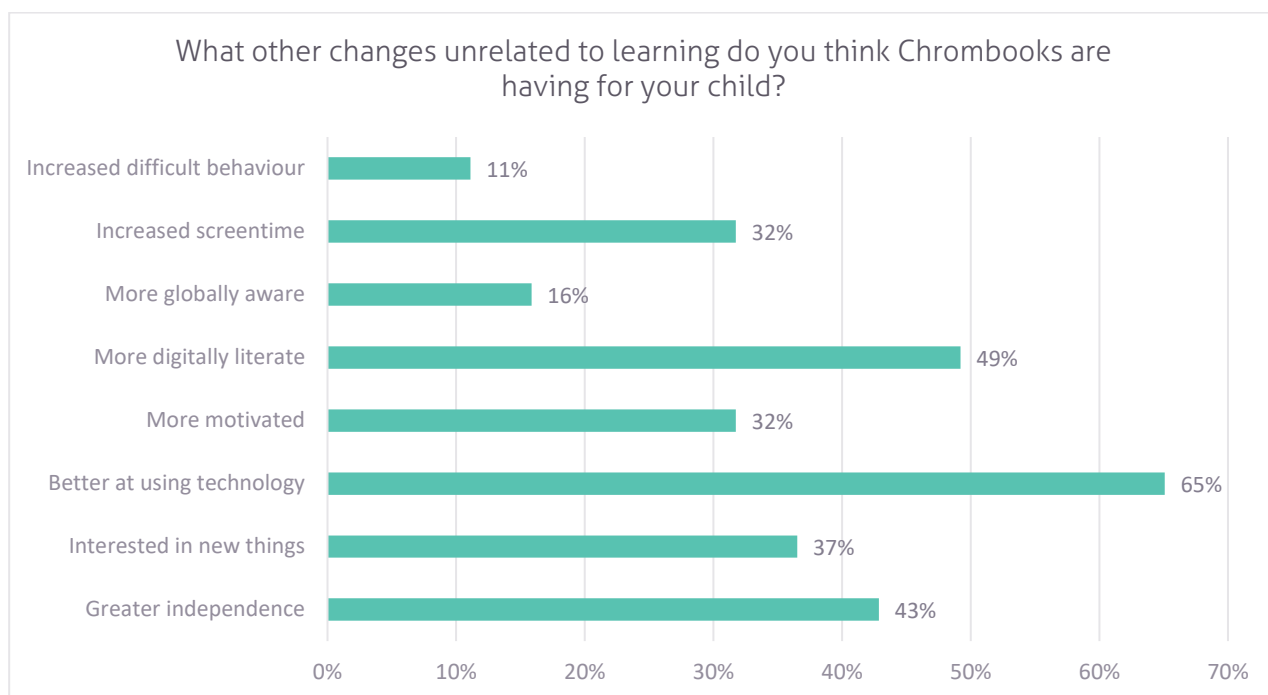


The majority of parents (85%) believed that their child had become more conscientious since receiving a Chromebook. This increased from 48.4% last year. A large proportion (60%) also believed that their child has gained more independence.

When asked how the introduction of Chromebooks had changed their understanding of their child's learning, the following comments were left:

- 📌 "My daughter has dyslexia, since using the Chromebook she is now reading independently"
- 📌 "It help my twins to gained confidence in typing and practicing mathematics"
- 📌 "It was good to see what they are learning on daily basis and build on that at home as well"
- 📌 "Homework used to be stressful before but since my son had the chrome book , it has made things easier as he gets excited to us it and do other learning activities. There is no time spent scribbling or dragging with his handwriting. My son is a slow writer so it saved a lot of time"
- 📌 "The Chromebook have made it easier for all children to learn on the same platform at the same time. Not sure home much they use their Chromebook at school and what's expected from them when they are at home? If there is no homework set can't they leave them in school as they are very heavy for a child to carry"
- 📌 "They haven't. I don't see what she does on it. I didn't receive any guidance about getting involved with her use of the device as far as I know"
- 📌 "They've made me realise how negatively tech impacts on a young child's intellectual development. I believe that children of this age benefit more from reading physical books and using paper and pen. There is a growing body of research to back this up. Tech provides an instant effect that overwhelms the slower and deeper effects of learning"

through traditional mediums. I think these devices are more appropriate for secondary school environments”



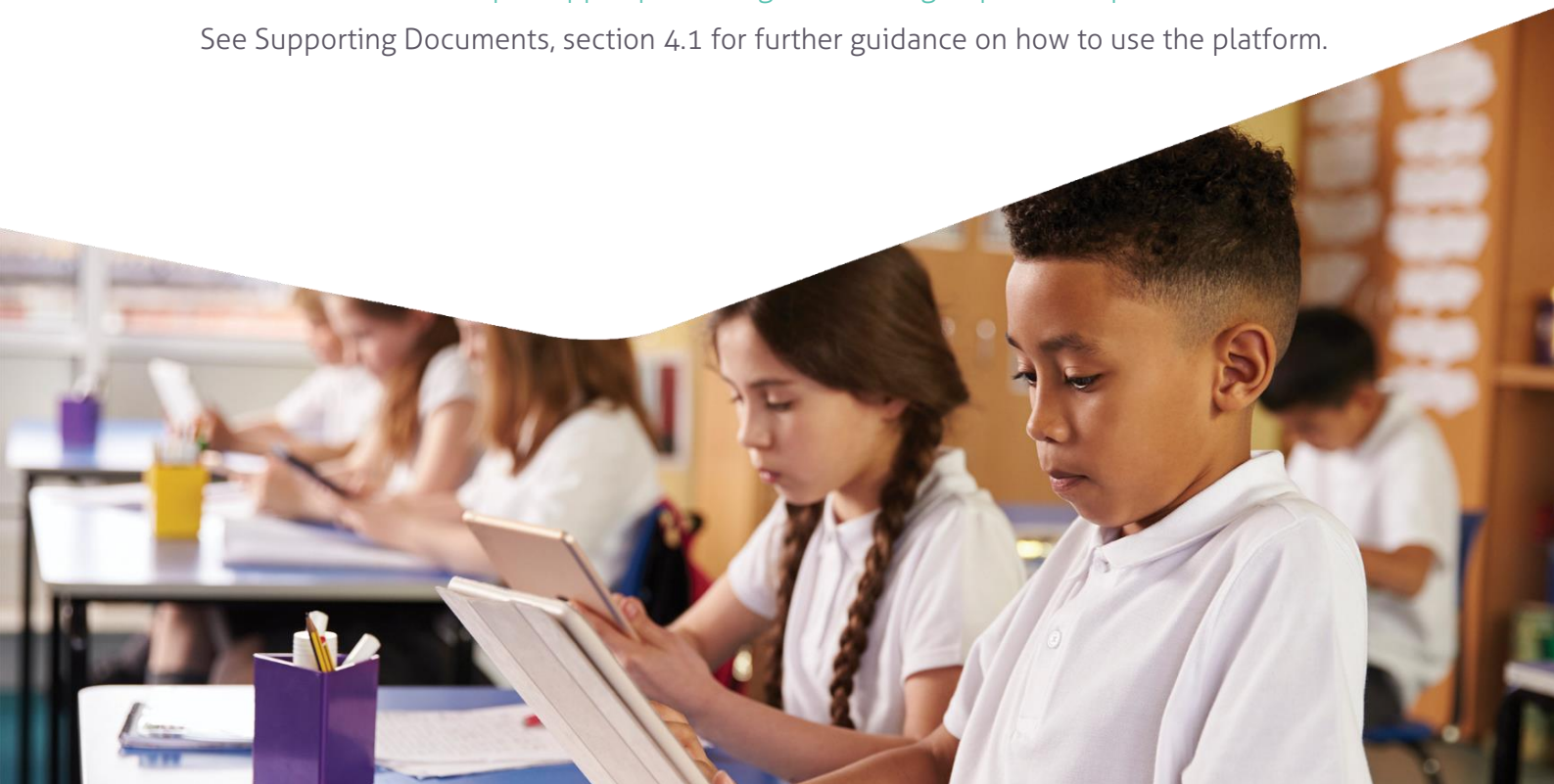
Similar to last year, the majority of parents believed that their child had become better as using technology since using a Chromebook. This was followed by more digitally literate and greater independence. 32% of parents believed that the introduction of Chromebooks had led to increase screentime for their children, and a small number of parents (11%) thought that it led to increased difficult behaviour.

A7: Full results breakdown

To learn more about the programme’s impact across different pupils, see:

1:1 Devices: https://app.impactd.org.uk/school_groups/145/reports

See Supporting Documents, section 4.1 for further guidance on how to use the platform.



Part 4: Supporting Documents

4.1 Data collection and analysis

How robust is the data at this stage?

This data was collected over two time periods within the 2022/23 academic year. This enables us to compare the two periods to gain a clearer picture of the impact of the investment in 1:1 devices. A more reliable picture of the investment's long-term impact is also beginning to emerge as the evaluation has now been completed over a further time point for pupils in Year 4. Data collection was robust, including sufficient sample sizes and the use of attainment data to evaluate the academic impact of the investment. To strengthen data collection, we would suggest including control groups for all measures where possible.

How was the data analysed?

Quantitative analysis

The following tests were used to analyse the data:

- ◆ Mean comparison tests

Qualitative analysis

The following qualitative methods were used to draw conclusions about causative factors and implementation:

- ◆ Qualitative thematic analysis
- ◆ Pupil surveys
- ◆ Parent surveys

To learn more about the analysis we employed to produce this report, please speak to your partnership manager.



4.2 Using the ImpactEd Platform Reports

You can use the drop downs here to compare across different subgroups, including PP, SEND, gender, year group etc.

Select the evaluation you are interested in by clicking this drop down

Please select an evaluation to display reporting stats

The Inspire Programme

Select Evaluation

The Inspire Programme

All pupils compared with Pupil premium

Hide all graphs

Average baseline and average final results on the outcomes you've chosen

Percentage change for pupils that have both a baseline and final result

Team Working >> MONITORING

Baseline 24 pupils 3.78 /5 +0.26 from national average

Final 23 pupils 3.82 /5 +0.30 from national average

Overall change For 18 pupils with baseline & final 0.3%↓

Results breakdown

Click 'Show all graphs' to see the graphs for all measures in your evaluation

If you scroll to the bottom of the reporting page, you can download responses in an Excel spreadsheet which also contains a heatmap highlighting low and high scores

The screenshot displays the ImpactEd Reports interface. On the left is a sidebar with navigation links: Radley, DASHBOARD, REPORTING (highlighted), EVALUATIONS, PUPILS, STAFF, DATA MANAGEMENT, and SUPPORT. The main content area is titled 'Reports'. At the top, there's a header with the ImpactEd logo, 'Change dashboard', and a user profile 'Faye Robson'. Below the header, there's a 'Select Evaluation' dropdown menu set to 'The Inspire Programme'. Underneath, there's a section for 'The Inspire Programme' with two dropdowns: 'All pupils' and 'Pupil premium', followed by 'compared with'. To the right of these is a 'Hide all graphs' button. Below this, there's a section for 'Team Working >> MONITORING'. It shows 'Baseline' results for 24 pupils with a score of 3.78 /5, and 'Final' results for 23 pupils with a score of 3.82 /5. Both scores are noted as being above the national average (+0.26 and +0.30 respectively). To the right, it shows an 'Overall change' of 0.3% with a downward arrow, for 18 pupils with both baseline and final results. At the bottom right, there's a 'Results breakdown' button. A legend at the bottom indicates 'Baseline' (light blue), 'Final' (dark blue), and 'Change' (orange).

The graph is comparing baseline and final scores for motivation and comparing the scores for Pupil Premium and non-Pupil Premium against all pupils who took part

If you click on 'Results Breakdown' you can access individual scores and responses for each pupil

Results breakdown

Team Working >>
MONITORING

Baseline
24 pupils

3.78_{/5}

+0.26 from national average

Final
23 pupils

3.82_{/5}

+0.30 from national average

Overall change
For 18 pupils with baseline & final

0.3%↓



This number shows how far away the average score is from our national average, which is based on over 100'000 responses to our academically validated questionnaires

This shows the percentage change over time for those pupils who complete **both** baseline and final assessments

4.3 About ImpactEd

ImpactEd

ImpactEd is a non-profit organisation that exists to improve pupil outcomes and life chances by addressing the evaluation deficit. We support schools to reliably understand the impact of the programmes they run.

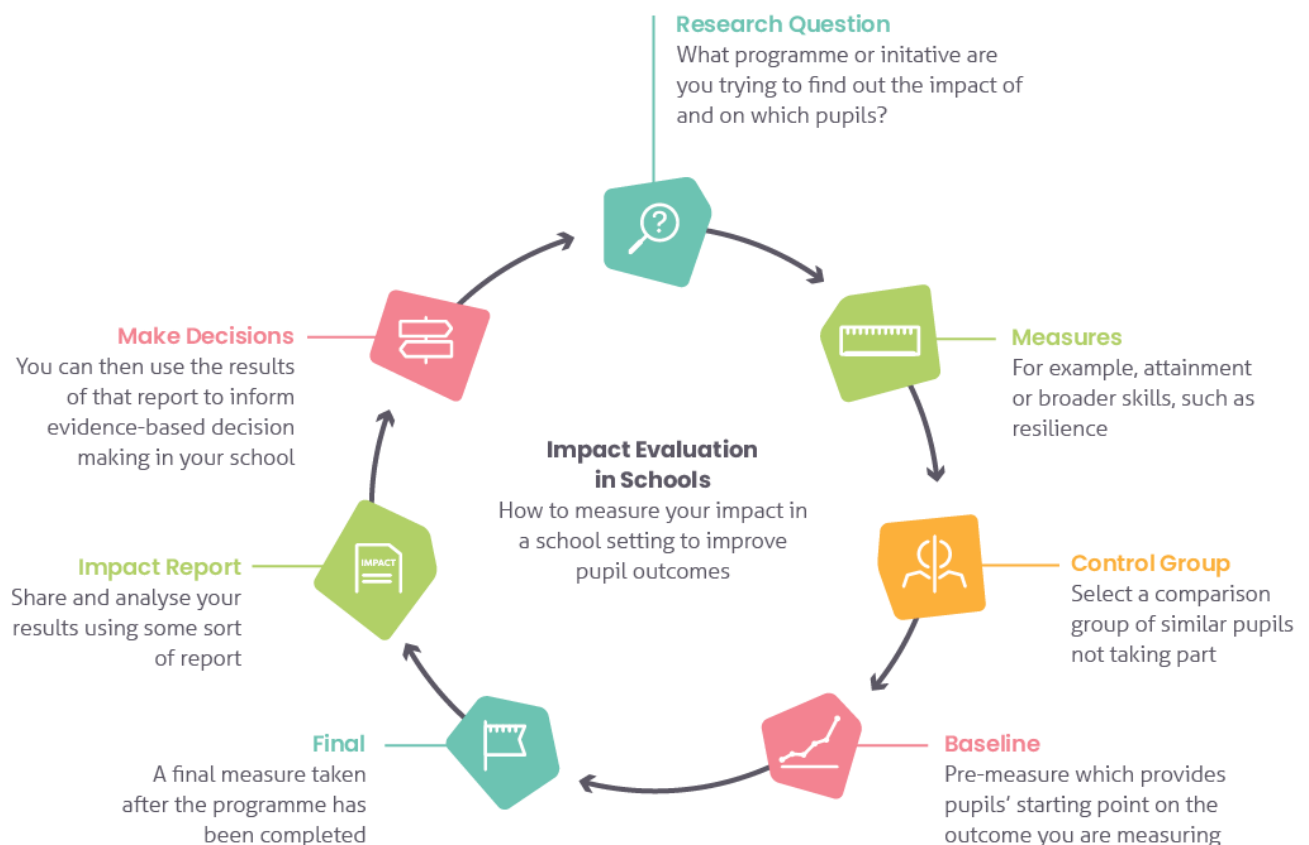
We do this through **partnership** to build capacity for research and evaluation, and our digital **platform** which makes monitoring and evaluation easy for schools.

We established ImpactEd to help schools and school groups understand what is and isn't working in their context, giving them access to robust research methods to assess impact and making evaluation quicker, easier and more effective.

Our Approach

Impact evaluation can help guide decision making, informing your decisions on whether to expand, modify, or stop doing a programme or initiative. Alongside this, they can support your school to improve outcomes for pupils, by feeding into school development plans and helping you prioritise those activities making the biggest difference.

Over the last year, Maritime Academy Trust has worked in partnership with us to design, implement and evaluate the impact of the programmes and interventions they run.



4.4 Glossary

Evaluation terminology

Academic attainment

This refers to test scores in academic subjects such as maths, science, English etc. Some evaluations will compare pupils' attainment in tests for these subjects at the start (baseline) and end (final) of an evaluation to see whether they have made progress over time.

Academically validated measures

These are scales to measure non-cognitive skills linked to academic achievement and long-term life outcomes that have been developed and peer reviewed by academic researchers within the fields of education and psychology. These have been developed to ensure:

1. Predictive validity. These skills have been shown to be closely related to desirable life outcomes such as educational achievement, employability and earnings potential, or long-term health and life satisfaction. (In psychometrics, predictive validity is the extent to which a score on a scale or test predicts scores on some criterion measure. For example, the validity of a cognitive test for job performance is the correlation between test scores and, say, supervisor performance ratings.)
2. Construct validity. The measure tests for the skill that it says it does, as defined in the literature.
3. Test-retest validity. The results stay the same when tests are repeated.

Baseline

The initial assessment of pupils' attainment or non-cognitive skills, at the start of an evaluation.

Change over time

The difference between a pupil's baseline result and their final result, either for attainment or non-cognitive skills. This indicates progress made during participation in the programme. This will begin to indicate whether the programme has had an impact on pupils, though we must also account for other factors that could lead to this change, which is why we recommend the use of control groups and qualitative analysis.

Control Group

A control group is composed of students who do not participate in the programme and who closely resemble the pupils who take part in the programme in attainment and demographic traits. It is used to get an indication of whether a change in results over the course of the programme can likely be attributable to the programme itself, or whether results were likely to change over time in any case. Also known as a comparison group.

Evaluation

An evaluation is set up to measure the impact of a particular programme. This will involve monitoring the programme over a specified period, for one or more groups, in order to evaluate the progress participating pupils make. One programme can involve multiple evaluations, and we recommend gathering data across multiple time points to ensure valid and reliable results are generated.

Evaluation Group(s)

An evaluation will either cover one specific group of pupils, who all participate in the programme (e.g. a new programme trialled in one class, or an intervention with one small group). Or, the evaluation may cover multiple evaluation groups (e.g. as several small-group interventions, or with multiple classes carrying out the same programme). In the case of multiple evaluation groups, it can be useful to compare the outcomes for different groups to build up a stronger data set, as well as to compare differences in implementation to see whether this has an effect on results.

Final

The final assessment of pupils' attainment or non-cognitive skills at the end of an evaluation.

Matched Pupils

Matched Pupils are pupils who carried out both a baseline and a final assessment at the start and end of the evaluation. It can be useful to consider results from Matched Pupils only because this means only including those pupils who participated in the full duration of the programme.

Non-cognitive skills

The term 'non-cognitive skills' refers to a set of attitudes, behaviours, and strategies that are thought to underpin success in school and at work, such as motivation, perseverance, and self-control. They are usually contrasted with the 'hard skills' of cognitive ability in areas such as literacy and numeracy, which are measured by academic tests.

Outcomes

We use outcomes to refer collectively to any non-cognitive skills and academic attainment scores that are being measured over the course of an evaluation.

Participating pupils

The group of pupils participating in the evaluation, and not forming part of a control group.

Programme

This could be any intervention, project or programme run in school with the aim of improving pupil outcomes or life chances. ImpactEd works with schools to build evaluations of their programmes in order to better understand whether they are having their intended impact.

Skills measures

We use a set of academically validated skills measures to assess pupils' non-cognitive skills. See Our Metrics, below, for details of each measure we use.

Subgroups

When comparing impact across a group of pupils participating in an evaluation, we usually divide this into sub-groups to identify how trends varied across the sample. This supports teachers to identify pupils that need additional support, as well as those who may particularly benefit from the programme. These sub-groups may be demographic, for example covering EAL pupils, Pupil Premium Pupils, boys/girls, LAC pupils. They may be age sub-groups, for example comparing year groups or Key Stages. Or they may cover different schools within a trust.

Statistical analysis terminology

Statistically significant

A result, or change from the baseline, is described as having statistical significance, or being statistically significant, if it is unlikely to be due to random chance.

For example, if we say that maths results increased by 30% after participation in an intervention, and that this change was statistically significant, this means that we are confident that this change is unlikely to be due to random chance, and therefore can likely be attributed to participation in the intervention.

P Value

A p-value is a measure of the probability that an observed difference could have occurred just by random chance. The lower the p-value, the greater the statistical significance of the observed difference. Typically, a p-value of ≤ 0.05 indicates that the change was statistically significant. A p-value higher than 0.05 (> 0.05) is not statistically significant and indicates strong evidence for the null hypothesis, i.e. that an observed difference is due to random chance.

Education terminology

EAL

Pupils with English as an Additional Language (EAL) refers to learners whose first language is not English.

LAC

Looked After Children (LAC) are children who have been in the care of their local authority for more than 24 hours. Looked after children are also often referred to as children in care.

Pupil Premium (PP)

The pupil premium grant is designed to allow schools to help disadvantaged pupils by improving their progress and the exam results they achieve. Whether a child is eligible for Pupil Premium funding is often used by schools as an indicator of disadvantage.

SEND

A child or young person has special educational needs and disabilities if they have a learning difficulty and/or a disability that means they need special health and education support; this is usually shortened to SEND.

Measures for social and emotional skills

The self-report measures available on the ImpactEd platform are academically validated questionnaires for measuring 'non-cognitive' skills that have the biggest impact on pupil life chances and outcomes.

Anxiety

Anxiety is a feeling of worry or fear that is experienced as a combination of physical sensations, thoughts or feelings. Feelings of anxiety are associated with significant negative outcomes, including impaired academic, social and health functioning (Reardon & Spence, 2018).

Conscientiousness

Conscientiousness is 'the tendency to be organized, responsible, and hardworking' (Almlund et. al., 2011). It is linked to attainment and skills such as grit and persistence. A student with a high level of conscientiousness is not easily distracted from their goal, demonstrates perseverance and is willing to delay gratification for the sake of achieving an objective.

Extraversion

Extraversion is a measure of pupils' engagement with the outside world, normally associated with confidence and assertion in discussions. Extraverts tend to enjoy interacting with others, and extraversion is often related to enthusiasm, sociability and ambition. It is strongly related with wages in adult life and some measures of academic progression.

Goal orientation

Goal orientation is defined as an individual's motivation and ability to make viable plans, set targets and objectives, and take action towards desired goals. Pupils with a high level of goal orientation tend to be more cognitively engaged and misbehave less than their peers with lower levels of goal orientation (Roeser et al. 2002).

Growth mindset

Growth mindset is a belief that your skills and intelligence are things that you can develop through effort. Pupils with a greater level of growth mindset will tend to embrace challenge and judge success by being about how much they stretch themselves, not just what they achieve (Dweck, 2008). In some studies, possessing a growth mindset has been found to be a strong predictor of achievement, comparable to that of the impact of family income. (Claro et al., 2016), although recent work has shown more modest effects (Foliano et al., 2019).

ImpactEd Covid Learning Index

Learning resilience in relation to factors affected by Covid-19. At ImpactEd, we conducted thorough research to build a measure which provides an overall indicator of pupils' learning resilience in relation to factors which are likely to be affected by the Covid-19 pandemic. The tool is compiled using statements from existing validated measures, such as Liem & Martin's multidimensional conceptual framework of the cognitive and behavioural components of motivation and engagement (2011) and Fuller's self-report instrument (2017) for measuring student engagement.

Metacognition

Metacognition means 'thinking about thinking': pupils' ability to think explicitly about their own learning (Flavell, 1979; Higgins et al., 2016). It is strongly associated with academic progress and improves other skills required for learning, such as critical thinking. Metacognition enables pupils to develop strategies to plan, monitor, and evaluate their learning.

Motivation

Motivation is what causes an individual to want to do one thing, and not another. Intrinsic motivation relates to pupils' inherent enjoyment or interest in a task. Intrinsic motivation has positive effects on academic performance, encouraging high-quality learning and creativity (Gutman & Schoon, 2013; Vallerand, 1997). Teaching which is focused on intrinsic goals as opposed to extrinsic goals improves test performance across all age groups (Vansteenkiste et al., 2004).

Openness

Openness is the tendency to be open to new academic, cultural, or intellectual experiences. In pupils it is associated with the motivation to engage in self-examination, and relates to both academic performance and wellbeing.

Resilience

Resilience is defined as perseverance and passion for long-term goals, with an emphasis on the long-term. Pupils with high levels of grit and resilience may work persistently over years to achieve goals despite experiencing setbacks. Resilience has been related to life outcomes including higher earnings and fewer career changes (Duckworth and Quinn, 2009).

School engagement

School engagement measures pupils' behavioural, emotional and cognitive engagement with school. Higher levels of school engagement are associated with greater resilience and academic performance. (Glanville & Wildhagen, 2006)

Self-efficacy

Self-efficacy is a measure of pupils' belief in their ability to achieve a specific task in the future. Self-efficacy is correlated with higher academic achievement and persistence, and also contributes to pupil wellbeing. (Gutman & Schoon 2013, DeWitz et. al. 2009).

Test anxiety

Test anxiety is concerned with pupils' emotional responses to tests (Pintrich and De Groot, 1990). Greater levels of test anxiety can result in worse performance in exams, but may in some situations be linked to increased motivation and self-regulation.

Teamwork

Teamwork is defined as a young person's perceived ability to collaborate and work with others to achieve a common goal in a group or team context (Anderson-Butcher et al., 2014). It is often particularly associated with capacity to engage in collaborative learning and work well in groups. Life skills such as teamwork are protective factors that predict healthy outcomes for young people and are highly relied upon within professional fields such as medicine, education, business and engineering (Newman et al., 2014).

Wellbeing

Wellbeing refers to a state in which individuals thrive and flourish, including contentment and overall sense of purpose as well as day-to-day happiness. (Huppert, Baylis, & Keverne, 2004).



ImpactEd is transforming how schools approach their programmes, embedding an impact culture across the education system.”

DAME SUE JOHN, Executive Director,
Challenge Partners

Partners and supporters



**Improving pupil outcomes
by working with schools to
address the evaluation deficit.**

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